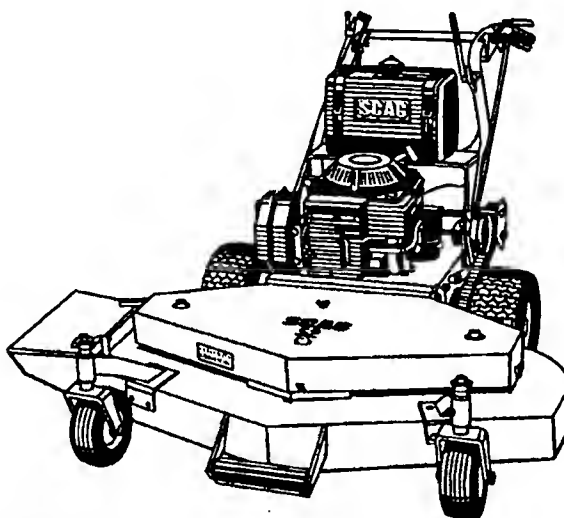


# SCAG®

## BELT DRIVE COMMERCIAL MOWERS TECHNICAL MANUAL



### MODELS

SW32-14BV  
SW36-13KA  
SW36-14BV  
SW36-14KH  
SW48-13KA  
SW48-14BV  
SW48-14KH

SW-13KA  
SW-14BV  
SW-14KH  
SW-18KH  
SW-18EKH  
SW-20EKH

SWM-52  
SWM-61  
SWM-72

# TABLE OF CONTENTS

SUBJECT	PAGE
Safety Instructions	
Before Operating _____	1
While Operating _____	1
While Maintaining and Storing _____	2
Assembly Instructions _____	2-4
Adjustments _____	4-5
Initial Run-in _____	6
Lubrication _____	6
Operating Instructions _____	6-7
32" & 36" Cutter Deck _____	8-9
48", 52", 61" & 72" Cutter Deck _____	10-11
Engine Deck _____	12-13
Transmission _____	14
Handle Assembly _____	15-27
Wiring Diagram Electric Start _____	18
Wiring Diagram Manual Start _____	19
Replacement Decals _____	19-20
Warranty _____	21

# SAFETY INSTRUCTIONS

Your mower is only as safe as the operator! As with any type of power equipment, carelessness or error on the part of the operator may result in serious bodily injury. In addition, improper maintenance of the machine can also result in injury. To reduce the potential for injury, please read and follow these instructions on safe operation and be certain that anyone using this mower fully understands and complies with the following instructions.

## BEFORE OPERATING

1. Read and understand the contents of this Technical Manual before operating the machine. Become familiar with all controls and know how to stop quickly. A free replacement manual is available by sending complete Model and Serial Number to:  
Scag Power Equipment, Inc.  
1000 Metalcraft Drive  
Mayville, Wi 53050
2. Do not allow children to operate the machine. Do not allow adults to operate the machine without proper instruction.
3. Before attempting to start engine, shift transmission into neutral, move blade clutch lever into STOP position and move neutral latch to NEUTRAL LOCK.
4. Remove all debris or other objects that might be picked up and thrown by the cutter blades. Keep all bystanders away from the mowing area.
5. Keep all shields, safety devices, and decals in place. If a shield, safety device or decal is defective or damaged, repair or replace it before operation is commenced. Also, tighten all loose nuts, bolts and screws to assure machine is in safe operating condition.
6. Do not operate machine while wearing sandals, tennis shoes, sneakers or shorts. Also, do not wear loose fitting clothing which could get caught in moving parts. Always wear long pants and substantial shoes. Wearing safety glasses and safety shoes is advisable and required by some local ordinances and insurance regulations.
7. Fill fuel tank with gasoline before starting the engine. Avoid spilling gasoline. Since gasoline is flammable, handle it carefully.
  - A. Use an approved gasoline container.
  - B. Do not fill tank while engine is hot or running.
  - C. Do not smoke while handling gasoline.
  - D. Fill fuel tank outdoors and up to about one inch (25 mm) below the bottom of the filler neck.
  - E. Wipe up any spilled gasoline.

## WHILE OPERATING

8. Start engine when neutral latches are in neutral lock position, cutter blades are disengaged, and transmission is in neutral.

9. Do not run the engine in a confined area without adequate ventilation. Exhaust fumes are hazardous and could possibly be deadly.
10. Using the machine demands attention. To prevent loss of control:
  - A. Mow only in daylight or when there is good artificial light.
  - B. Watch for holes or other hidden hazards.
  - C. Do not drive close to a drop-off, ditch, creek or other hazard.
  - D. Reduce speed when making sharp turns and when turning on hillsides.
  - E. Always be sure of your footing. Keep a firm hold on the handle and walk--never run.
  - F. Do not operate where conditions are slippery.
11. The discharge chute must always be installed and in the down position on the side discharge cutting unit except when optional grass catcher is completely installed. If the cutting unit discharge should plug, shut engine off and wait for all movement to stop before removing obstruction.
12. Disengage the blades and wait for them to stop before crossing gravel drives, walks or roads.
13. Shut the engine off and wait until the blades come to a complete stop before removing the grass catcher container.
14. Never raise the cutting unit while the blades are rotating.
15. If the cutting blades should strike a solid object or the equipment should start to vibrate abnormally, stop the engine, disconnect the spark plug wire, and check immediately for the cause. Vibration is generally a warning of trouble. Check the cutting unit and traction unit for damaged or defective parts. Repair any damage before starting the engine and operating the cutter unit. Be sure blades are in good condition and blade bolts are tight.
16. Always park the mower and/or start the engine on a level surface. If this is not possible, block the wheels to prevent the mower from moving when you are not in the operator's position.
17. Cut grass slopes carefully. Do not start, stop or turn suddenly. Mow across the face of slopes; never up or down. Do not mow excessively steep slopes.
18. Do not touch engine or muffler while engine is running or soon after it is stopped. These areas could be hot enough to cause a burn.
19. Before leaving the operator's position or leaving mower unattended, shift transmission into NEUTRAL, place neutral latches in NEUTRAL LOCK position, move cutter blade engagement lever to STOP and shut OFF engine.
20. Do not pass or stand on the grass discharge side of any mower with the engine running. Stop operation when another person approaches.

## MAINTENANCE AND STORAGE

21. Disconnect high tension wire from spark plug to prevent accidental starting of the engine when servicing, adjusting or storing the machine.
22. If mower must be tipped to perform maintenance or adjustment, remove battery, drain gasoline from fuel tank and oil from crankcase.
23. To reduce potential fire hazard, keep the engine free of excessive grease, grass, leaves and accumulations of dirt.
24. Be sure machine is in safe operating condition by keeping nuts, bolts, and screws tight. Check the blade mounting bolts and nuts frequently to be sure they are tightened.
25. If the engine must be running to perform a maintenance adjustment, keep hands, feet, clothing and other parts of the body away from the cutting unit blades and other moving parts.
26. Do not overspeed the engine by changing governor settings. To be sure of safety and accuracy, have an authorized dealer check maximum engine speed with a tachometer.
27. Engine must be shut off before checking oil or adding oil to the crankcase.
28. Allow engine to cool before storing mower in any enclosure such as a garage or storage shed. Make sure the mower fuel tank is empty if machine is to be stored in excess of 30 days. Do not store mower near any open flame or where gasoline fumes may be ignited by a spark.
29. Always store gasoline in a safety-approved, red container.
30. Keep the mower and fuel container in locked storage to prevent children from playing and tampering with them.
31. Perform only those maintenance instructions described in this manual. If major repairs are ever needed or assistance is desired, contact an Authorized Scag Dealer. To ensure optimum performance and safety, always purchase genuine SCAG replacement parts and accessories. NEVER USE "WILL-FIT" replacement parts and accessories made by other manufacturers. Using unapproved replacement parts and accessories may void the warranty.
32. Be careful when servicing the battery as it contains acid, which is corrosive and could cause burns to skin and clothing.
33. Batteries release explosive gasses when being charged or discharged. KEEP away from any source of sparks and/or flame.

## ASSEMBLY INSTRUCTIONS

### ELECTRIC START UNITS ONLY!

Before proceeding with assembly prep the battery. Fill each cell with electrolyte until the top of the plates are covered, charge the battery at 3 to 4 amps for 4 hours (this insures a good initial charge), check and add electrolyte as needed to bring the fluid level to the bottom of the split ring, and then wash and dry off the battery.

**NOTE:** *Once the above fill and charge procedure has been completed only distilled water should be added to the battery cells.*

Set the battery into the support, connect the positive cable to the positive post, then connect the negative cable to the negative post, put the battery cover in place (at the back of the battery), and clamp the battery into place (finger tight) using the carriage bolts and wing nuts **DO NOT OVER TIGHTEN.**

**! WARNING:** Severe chemical burns can result from improper handling of battery electrolyte. Use proper eye, skin and clothing protection to prevent contact with eyes, skin and clothing.

External contact: Flush with water.

Internal contact: Drink large quantities of water, followed with milk of magnesia, beaten egg or vegetable oil.

**CALL A PHYSICIAN IMMEDIATELY!**

**IMPORTANT -** In case of internal contact **DO NOT** give fluids that would induce vomiting.

Eye contact: Flush with water for at least 15 minutes and **GET MEDICAL ATTENTION IMMEDIATELY!**

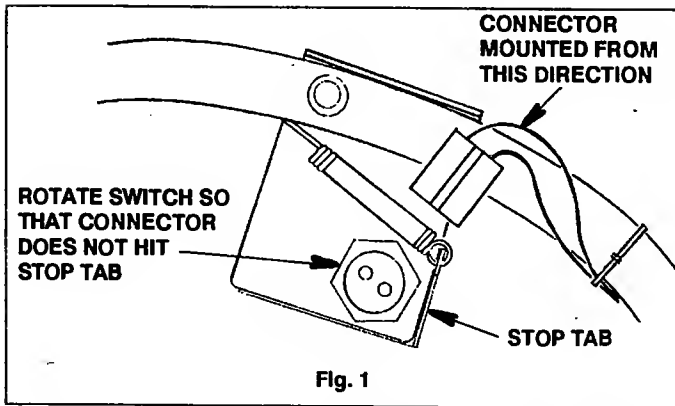
**! WARNING:** Explosive gases are vented from a battery when being charged or discharged which could explode if exposed to a flame or spark.

### SET-UP ALL UNITS

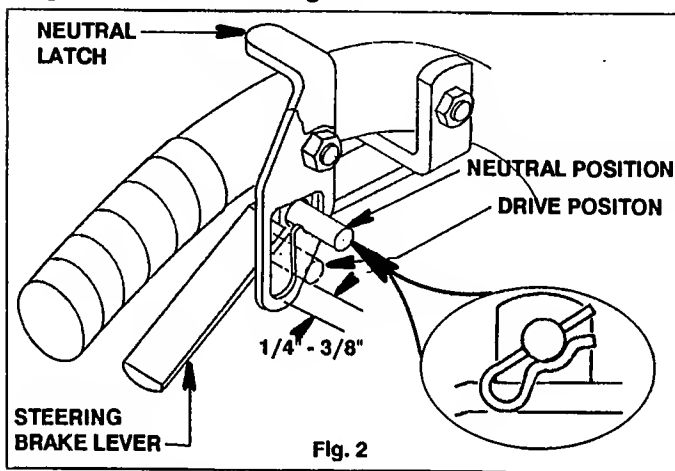
1. Lay out hardware according to the "Where Used" list in the loose parts packing list.
2. Install handle assembly to handle mounting frame using four 3/8-16 x 1" bolts, flat washers, and elastic stop nuts. Three different handle heights can be obtained using one of the three slotted holes in the handle mounting frame.
3. Route the throttle control above the RH jackshaft and up the right side of handle. Secure to handle with 1/4-20 x 2" hex head bolt and elastic stop nut. Secure cable about half way down the handle using a cable tie.

**NOTE:** *Check that the throttle cable moves the carburetor controls through their full range. If not adjust as required.*

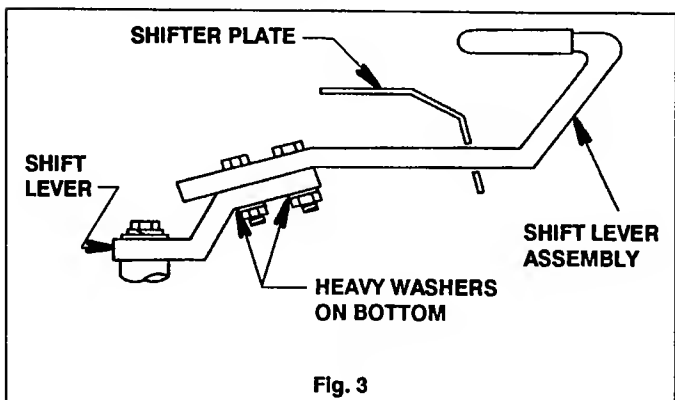
## Assembly Instructions Cont'd



4. Route the safety interlock wires up the left handle tube and attach the connector to the switch as shown. Be certain that the connector does not hit the safety lever stop tab, if it does, rotate the switch to the position shown (see fig. 1).



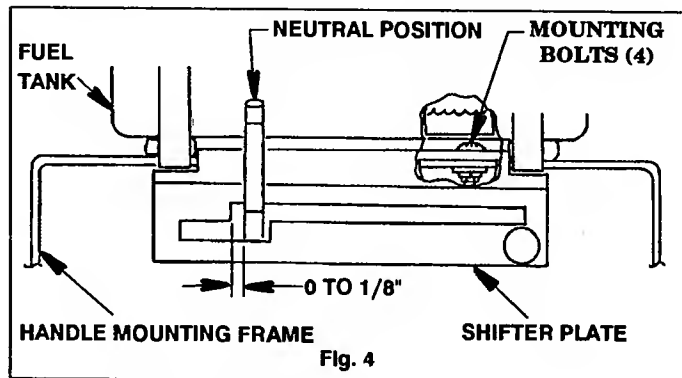
5. Installing control rods.
  - a) Thread rods into the swivel joints that are attached to the idler brackets on each side of the unit.
  - b) Adjust the rods so that there is about a  $1/4$ "- $3/8$ " clearance to the bottom of the neutral latch slot when in the drive position. Secure with small hair pin cotter as shown (see fig. 2)
  - c) Adjust brake rods so the brakes lock when the steering levers are pulled all the way up.



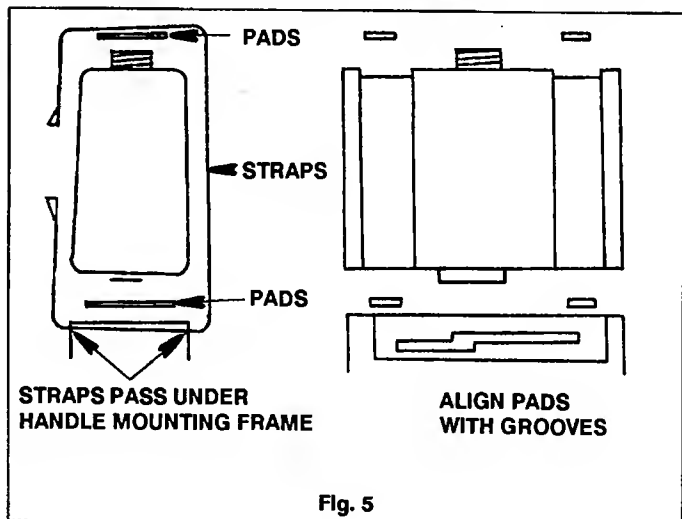
**NOTE:** Rods must allow neutral latches to be moved to the neutral position. (see fig. 2)

6. Attach shift lever assembly as shown (see fig. 3) on top of the short lever that is bolted to the transmission using two  $5/16$ - $18 \times 1$ " bolts, flat washers, lock washers and hex nuts. The heavy flat washers should be under the shift lever. The two bars should be parallel after bolts are tightened.
7. The shift plate should be adjusted so that the shift lever assembly is 0 to  $1/8$ " away from the stop when the transmission is in neutral (see fig. 4). Tighten nuts securely.

**NOTE:** Engine will not start if transmission is not in neutral.



8. Attach fuel tank (see fig. 5) as follows:
  - a) Wrap the straps around the fuel tank to pre-form them, then set aside to be used later.
  - b) Fuel tank support pads were glued to the handle mounting frame at the factory. These must align with the tank strap grooves when the tank is sitting in the oval cutout of the handle mounting frame. If they are not aligned, then reposition them at this time.
  - c) Two pads are shipped separately with tank and must be positioned on top of the fuel tank in the strap grooves.
  - d) Position the tank so the SCAG logo is forward. Place



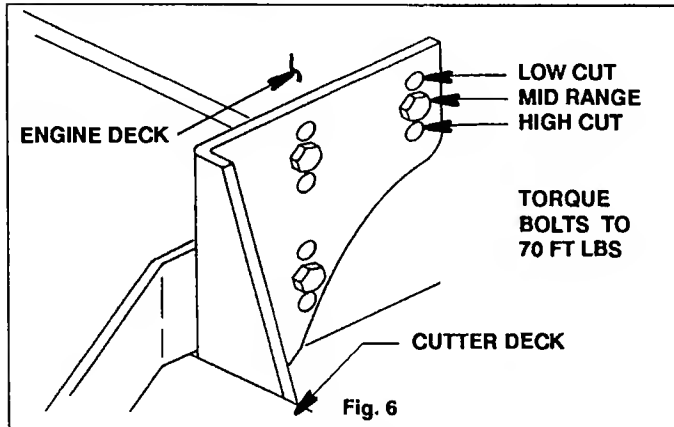
## ADJUSTMENTS

the straps around the tank going under the handle mounting frame, secure the strap together in front using two 1/4-20 x 2" slotted machine screws and hex nuts. Tighten screws until the tank will not slide around. Over tightening will damage the tank or straps.

- e) Attach the fuel line to the valve on the bottom of the tank.

### ATTACHING SW52, SW61, OR SW72 TO ENGINE DECK

- a) Before beginning, determine which mounting holes are to be used to best suit the cutting height requirements of your customer. High/Medium/or Low ranges (see fig. 6).
- b) Remove belt cover by loosening the wing nuts securing it to the cutter deck.



- c) Position the cutter deck so that the engine deck is between the mounting brackets of the cutter deck. Install two bolts through the mounting holes selected, secure loosely with a flat washer, lock washer and hex nut. Tilt the engine deck up or down to align the remaining four holes and secure with remaining hardware.
- d) Torque cutter deck mounting bolts to 50 to 70 ft. lbs..
- e) Route belt around engine pulley. Connect lower blade clutch control rod to eyebolt and over center link with flat washer and hair pin.

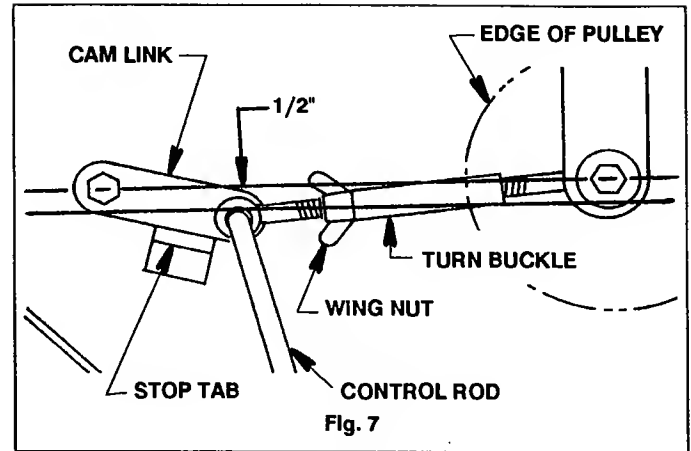
10. Attach discharge chute to cutter deck using two 5/16-18 x 1" bolt and elastic stop nuts.

11. Attach caster wheels supports to cutter deck using four 5/16-18 x 3/4" bolts, lock washers and hex nuts.

**NOTE:** Check all hardware to be sure it is tightened properly, also check clearance and routing of drive belts.

12. Check engine oil level and fill as is necessary. Add oil to the engine crankcase using type specified in engine operator's manual.

13. Fill fuel tank to about 1" below the fill neck with gasoline as specified in engine operator's manual.

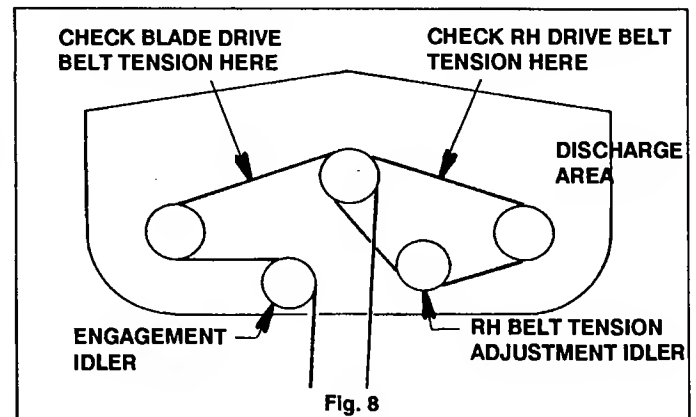


### CUTTER DECK DRIVE ADJUSTMENTS

1. Engage blade clutch lever and check for proper over center clearance. There should be about a 1/4" between rod and straight edge (see fig. 7). Bend the stop tab to adjust clearance.
2. Adjust belt tension so that the belt moves 1/2" with 10 lbs. of pressure. Check the pressure between the center and left spindle pulleys where applicable (see fig. 8). Second belt driving right spindle should be checked the same way. Adjustment is made by loosening the wing nut and tightening/loosening the turn buckle (see fig. 7).

### DRIVE CONTROLS

1. Steering control rods should have about a 1/4" clearance between the bottom of the slot and the bottom of the rod when the steering levers are released (see fig. 2).
2. The brake rods should be adjusted so that the brakes do not apply until the steering levers are pulled tight to the handles. When the steering levers are locked in the neutral position the unit may be pushed around.
3. The shift lever is not adjustable, however the shift plate can be moved right to left allowing proper positioning for neutral (see fig. 4).



## ADJUSTMENTS cont'd

### TRANSMISSION DRIVE BELT

Adjust the transmission drive belt so that there is about a 3/16" deflection with 10 pounds of pressure. Adjust by loosening idler pulley mounting bolt and sliding the idler left or right to change belt tension.

### Tire Pressure

Drive Wheel Tires	15 PSI
Caster Wheels	25 PSI

### CUTTER DECK ADJUSTMENTS

Due to the many conditions that exist it is difficult to suggest a setting that will work for every lawn. There are two adjustments that can be made on these decks, pitch and height.

**PITCH** is the angle of the blades (comparing front to rear). A *positive pitch* is when the front (leading) edge of the cutting plane is lower than the rear (trailing) edge, *level pitch* is when both front and rear are the same height, a *negative pitch* is when the leading edge is higher than the rear edge.

**HEIGHT** is the nominal distance the blade is off of the ground. This measurement is made with the blades pointed side to side and distance is measured between cutting tip and ground.

Adjusting the blade height can be done by moving any number of the five spacers on the blade mounting bolts to the top of the spindle shaft or below the spindle shaft (all blades should be positioned equally). Unit is shipped with one spacer on top and four underneath (see fig. 9). For best cut and discharge a minimum of three spacer should be between the blade and spindle.

Additional range to the cutting height can be achieved by repositioning the cutter deck in relationship to the engine deck (This adjustment can also effect the pitch of the deck). There are 3 positions (see fig. 6), suggested mounting is the middle holes. For cutting lower, mount the deck in the top holes. To cut higher, mount the deck in the bottom holes.

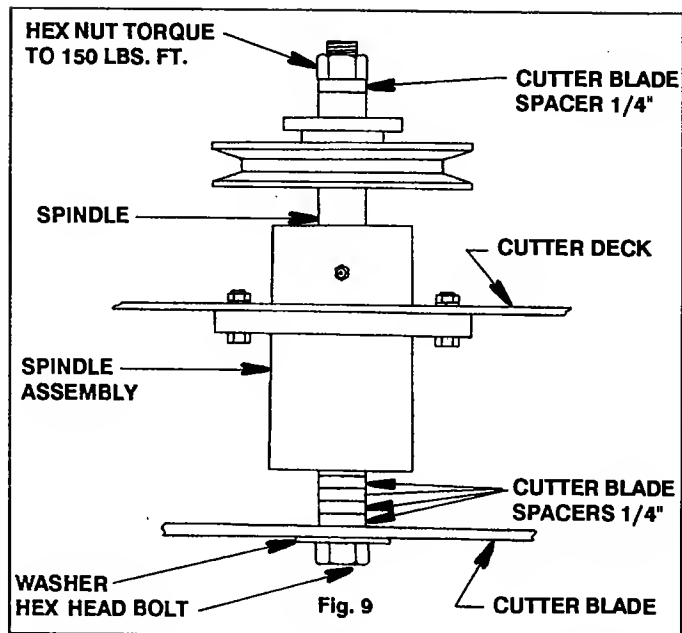
Remember to check the cutter deck belt alignment. Shimming or attaching the idler mounting bracket from underneath may be necessary to maintain belt life.

Caster spacers also can be repositioned to change cutting heights and to change the pitch of the deck (see fig. 10).

### GENERAL ADJUSTMENTS

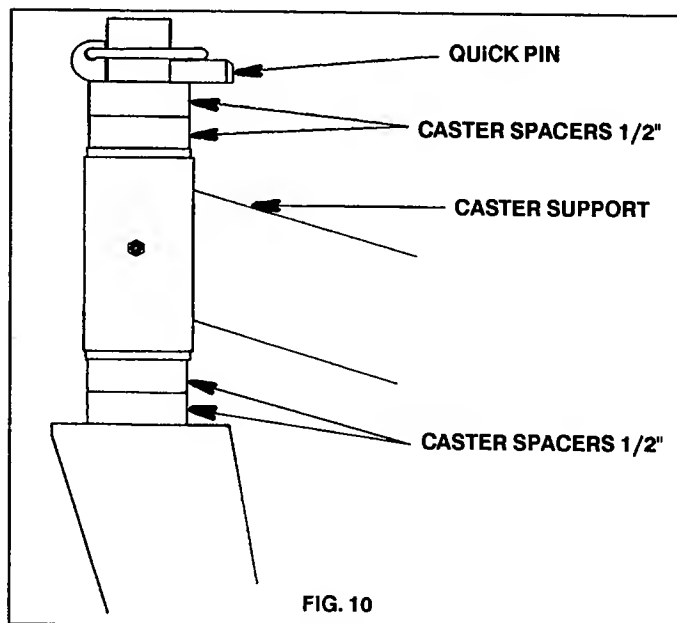
1. Check that all belts clear their guides by 1/8" to 1/4".

2. Adjust tension of blade drive belt by rotating turnbuckle so that about 10 pounds pull sideways deflects belt about a 1/2". **DO NOT OVERTIGHTEN.** Only a moderate force should be required on the engagement lever.



3. Check tension of transmission drive belt (under engine deck). A five pound pull sideways should deflect belt about 3/16". Slide idler pulley if required to adjust.

4. The tension of the two Twin Power Wheel Drive belts is self-adjusting. However, for adequate declutching, adjust length of steering control rods on each side of handle until about a 1/4" gap is provided between rod and bottom of neutral latch slot, when neutral latch is in drive position.



5. Adjust brake rods so that brakes will lock wheels while pulling machine rearward with steering levers fully squeezed. Check that machine rolls freely when neutral latches are in neutral lock position.

## INITIAL RUN-IN

**! WARNING:** Use extreme caution during mower's initial run-in to assure caster wheels are adequately blocked and drive wheels do not inadvertently contact ground. Keep bystanders away from machine. Never allow mower to discharge towards someone. Never leave the machine unattended during the initial run-in.

1. Lubricate all fittings as specified in Lubrication Section.
2. Locate machine in a secure area, away from bystanders, and preferably facing a wall. Raise drive wheels off ground. Block caster wheels.
3. Start engine and shift transmission into fourth gear. Engage cutter blades. Set throttle for 3/4 of full engine rpm.
4. Run the machine for a few minutes.
5. Declutch cutter blades, shift transmission into NEUTRAL, Stop engine.
6. Check tension of blade drive belt(s) and transmission drive belt. Adjust if necessary.
7. If necessary, readjust steering control and brake rods as indicated in the Adjustments Section.
8. Check function of all safety interlocks. Make sure that engine will not start unless transmission is in neutral and blade clutch is disengaged.
9. Check tire pressure and adjust to:

Caster Wheels	25 psi.
Drive Wheels	15 psi.

YOU ARE NOW READY FOR MOWING WITH  
CONFIDENCE!

## LUBRICATION

**EVERY DAY** (or up to once a week depending on environment) lubricate:

Cutter Blade Spindle Bearings 1 or 2 pumps with a hand gun using US Lithium MP White Grease 2125

**EVERY 100 HOURS** of operation lubricate the following parts and wipe off all excess grease:

Caster Wheel Bearings  
Caster Wheel Pivot Shafts  
Idler Pulley Bracket Pivot Bearings  
Drive Wheel Bearings  
Traction Idler Pivot  
Idler Bracket LH & RH

**NOTE:** Do not spill lubricant on wheel drive belts.

**EVERY 200 HOURS** lubricate the following parts and wipe off all excess grease:

Brake Lever Pivot  
Transmission Couplers

**NOTE:** Transmission is permanently lubricated and does not require service.

## MAINTENANCE

Check belt tension after 5 hours, 20 hours, then 100 hours. Check all mounting hardware every 200 hours, check torque on bolts and for wear on pins.

## OPERATING INSTRUCTIONS

1. Read and understand the instructions on safety before attempting to operate.
2. Before starting engine:
  - \* Fuel valve must be opened.
  - \* Transmission must be in NEUTRAL.
  - \* Blade clutch lever must be in STOP position.
  - \* Neutral latches must be in NEUTRAL LOCK position.
  - \* Key switch on.
  - \* Choke as required.
3. Start Engine. Adjust throttle.
4. Engage cutter blades by pushing blade clutch lever forward until it snaps into the on position. Pull lever back to disengage cutter blades.
5. Shift transmission into gear for desired mowing speed.

**NOTE:** Top speed is suggested only for transport!

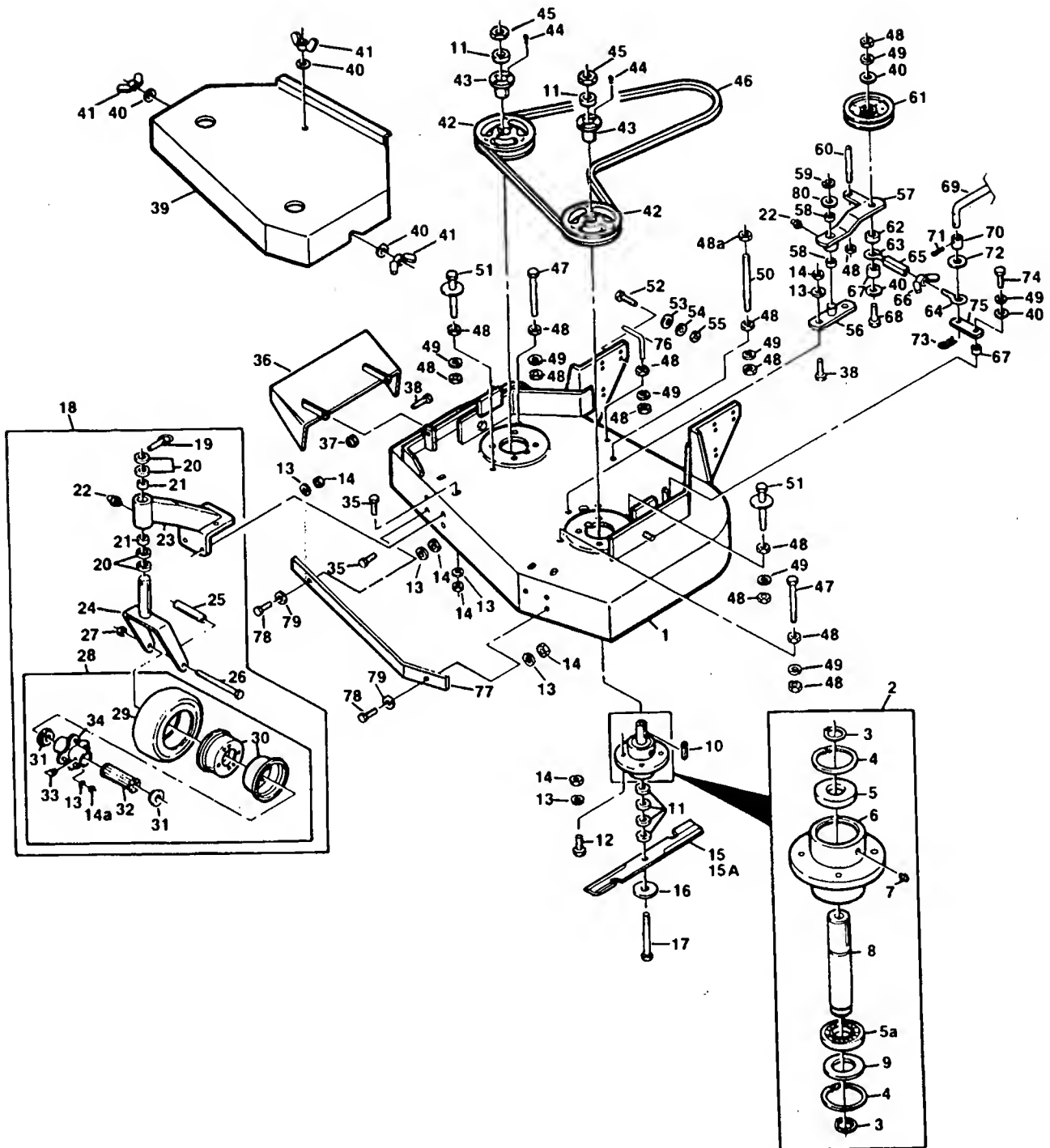
6. While squeezing steering brake levers with both hands, release both neutral latches.
7. When steering brake levers are released, machine will travel straight. To make a right turn, squeeze RH lever to turn left squeeze LH lever.
8. TO STOP wheel drive, squeeze both levers, lock neutral latches, shift transmission into neutral.

**! WARNING:** To avoid serious bodily injury and damage to transmission, machine must be at full stop before shifting from forward to reverse or from reverse to forward.

9. In reverse gear, the steering brake levers must be pushed downward for maximum traction.



# 32" & 36" CUTTER DECK



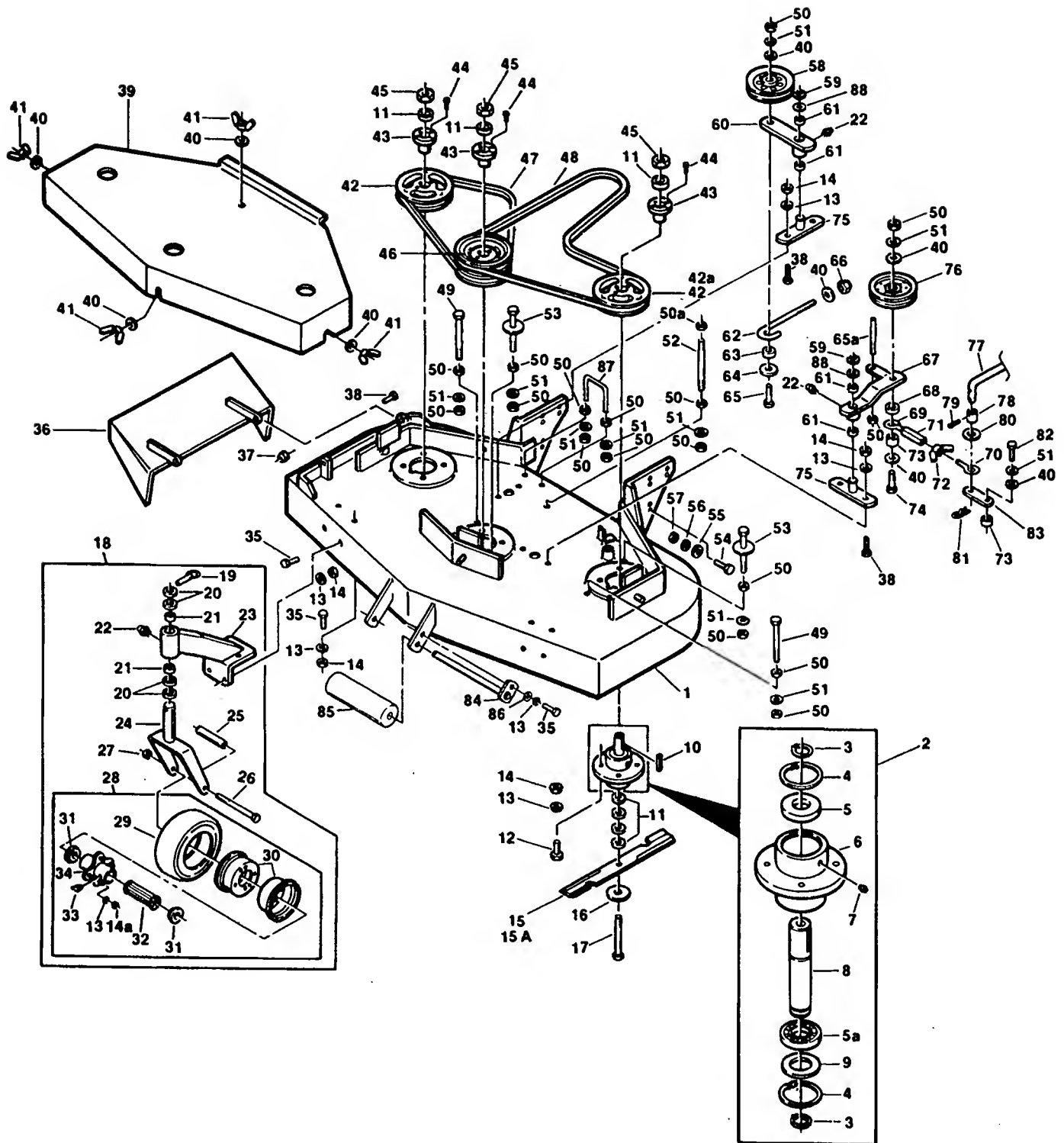
# 32" & 36" CUTTER DECK

see page 7 for illustration

REF. PART NO. NO.	DESCRIPTION	32 36	REF. PART NO. NO.	DESCRIPTION	32 36
1 46087	Cutter Deck Wld. (incl. Decal)	x	39 46157	Belt Cover Assy.. (incl. Decal)	x
1 45128 <i>46157</i>	Cutter Deck Wld. ( <i>incl. Decal</i> ) ?	x	40 *	Washer, 25/64 x 15/16 x 12 ga..	x x
2 46020	Cutter Spindle Assy. (incl. 3-9)	x x	40a *	Washer, 13/32 x 13/16 x 16 ga.	x x
3 04050-04	Retaining Ring, 1" Ext.-Inverted	x x	41 04022-04	Wing Nut, 3/8-16 elastic stop	x x
4 04050-07	Retaining Ring, 2-7/16 Int.bsc	x x	42 48127	Pulley (incl. 43-44)	x x
5 48101-01	Bearing, Upper	x x	43 48141	Tapered Hub	x x
5a 48101-02	Bearing, Lower	x x	44 *	Hex Hd. Bolt, 1/4-20 x 3/4	x x
6 41001	Spindle Housing	x x	45 *	Hex Nut, 5/8-11	x x
7 48114-02	Grease Fitting, Str., 5/16 Serr	x x	46 48204	Belt, Blade Drive	x
8 43001-02	Spindle, Cutter Blade	x x	46 48278	Belt, Blade Drive	x
9 04041-02	Washer, 1-5/16 x 2-7/16 x 16 ga.	x x	47 *	Hex Hd. Bolt, 3/8-16 x 5	x x
10 04063-08	Key, 1/4 x 1/4 x 2	x x	48 *	Hex Nut, 3/8-16	x x
11 43038	Spacer, Cutter Blade	x x	48a *	Hex Nut, 3/8-16 Ctr Locknut	x x
12 *	Hex Hd. Bolt, 5/16-18 x 1-1/4	x x	49 *	Lockwasher, Spring 3/8	x x
13 *	Lockwasher, Spring, 5/16	x x	50 04004-02	Support, Belt Cover	x x
14 *	Hex Nut, 5/16-18	x x	51 45098	Belt Guide Wld.	x x
14a *	Hex Nut, 5/16-24	x x	52 *	Hex Hd. Bolt, 7/16-14x1-1/4	x x
15 48108	Cutter Blade 18"	x	53 *	Washer, 15/32 x 59/64 x 16 ga.	x x
15 48110	Cutter Blade 16 1/2"	x	54 *	Lockwasher, Spring, 7/16	x x
15a 48185	Cutter Blade 18" Hi Lift	x	55 *	Hex Nut, 7/16-14 elastic stop	x x
15a 48184	Cutter Blade 16 1/2" Hi Lift	x	56 45037	Idler Pivot	x x
16 04040-10	Flat Washer, 5/8 W	x x	57 46145	Idler Arm Assy. (incl. 22 & 58)	x x
17 04001-41	Hex Hd. Bolt, 5/8-11 x 9-1/2	x x	58 48100-05	Bronze Bearing	x x
18 46079	Caster Assy. (incl. 19-28)	x x	59 04050-02	Retaining Ring, 3/4 Ext.,"E"	x x
19 04066-01	Quick Pin	x x	60 04004-04	Stud	x x
20 43037-01	Spacer, Caster Yoke, 1/2" long	x x	61 48269	Idler Pulley, Belt Clutch	x x
21 48100-01	Bronze Bearing	x x	62 43063	Spacer, Idler	x x
22 48114-01	Grease Fitting, Str. 1/4-28	x x	63 04070-02	Eyebolt, LH	x x
23 46082	Support Assy.	x x	64 04070-01	Eyebolt, RH	x x
24 45006	Caster Yoke Wld.	x x	65 43025	Turnbuckle	x x
25 43022	Sleeve, Caster Wheel Brg.	x x	66 04022-02	Wing Nut, 5/16-18	x x
26 04001-37	Hex Hd. Bolt, 1/2-13 x 5-1/2	x x	67 43042	Sleeve, Clutch Rod	x x
27 *	Hex Locknut, 1/2-13	x x	68 *	Hex Hd. Bolt, 3/8-16 x 2-3/4	x x
28 48307-01	Wheel Assy. (incl. 13-14a, 29-34)	x x	69 44003	Blade Clutch Rod, Lower	x x
29 48307-02	Tire Only Caster Wheel	x x	70 43043	Sleeve, Clutch Rod	x x
48006-03	Inner Tube only	x x	71 *	Cotter Pin, 3/32 x 1	x x
30 48307-04	Rim Pair, Caster Wheel	x x	72 *	Washer, 33/64 x 1 x 16 ga.	x x
31 48006-07	Retainer, Bearing, Caster wheel	x x	73 04062-01	Hair Pin, large	x x
32 48006-06	Roller Bearing, Caster Wheel	x x	74 *	Hex Hd. Bolt, 3/8-16 x 1	x x
33 48114-03	Grease Fitting, 45' 1/4-28	x x	75 42057	Cam Link	x x
34 48006-05	Hub Assy, Incl.	x x	76 44009	Belt Guide	x x
35 *	Hex Hd Bolt, 5/16-18x3/4	x x	77 42288	Bumper Ballast	x
36 45100	Discharge Chute Wld.	x x	77 42350-01	Bumper Ballast	x
37 *	Hex Nut, 5/16-18 Elastic Stop	x x	78 *	Hex hd bolt 5/16-18 x 1-1/12	x x
38 *	Hex Hd Bolt, 5/16-18 x 1	x x	79 *	Flat washer 11/32 x 11/16 x 16 ga.	x x
39 46085	Belt Cover Assy. (incl. Decal)	x	80 04041-08	Washer, 3/4 x 1 1/4 x .035	x x

\* Common hardware which should be purchased locally. All bolts are Grade 5 plated, all other fasteners are zinc plated.

# 48, 52, 61, & 72" CUTTER DECK



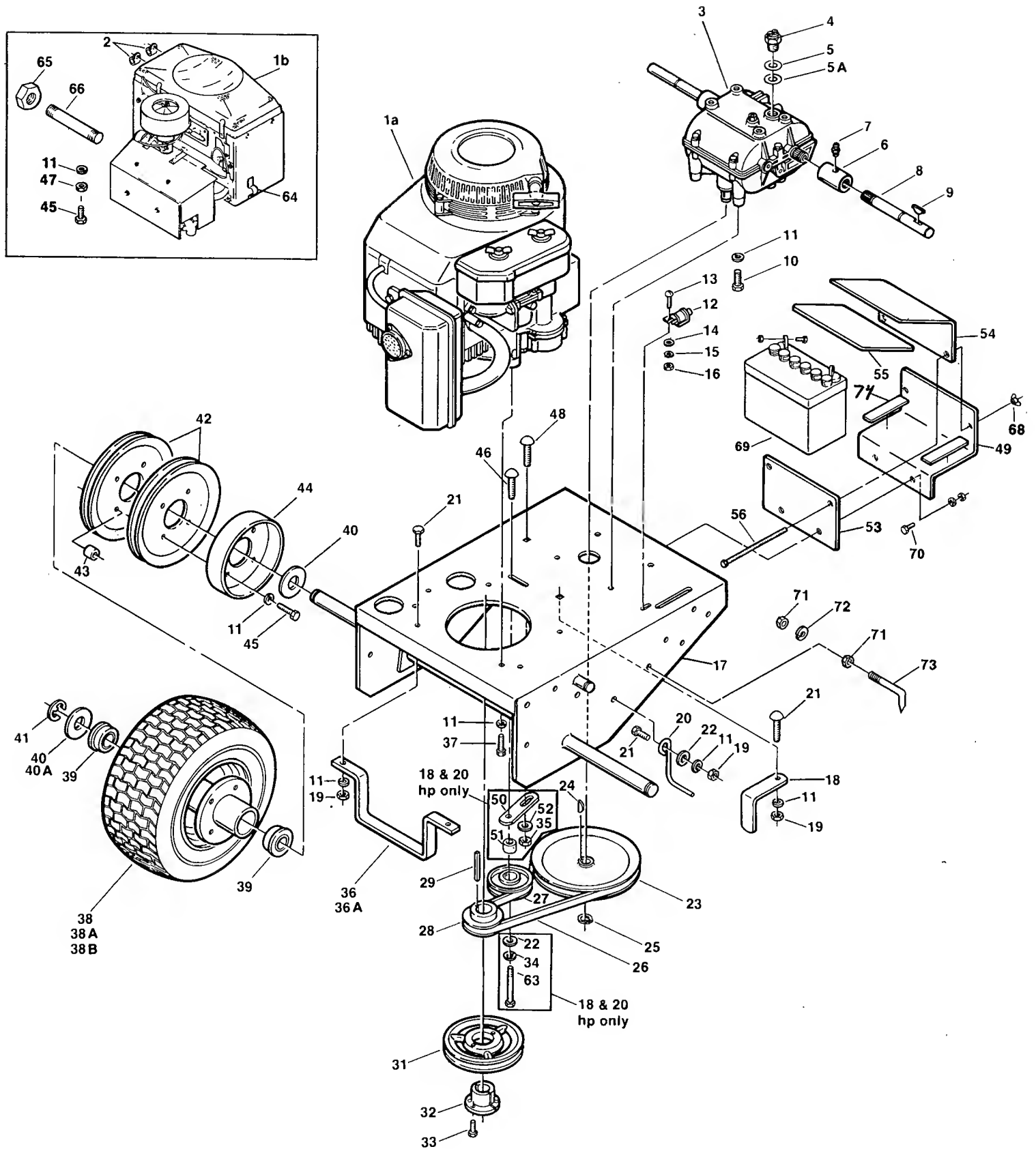
# 48, 52, 61, & 72" CUTTER DECKS

See Page 9 For Illustration

REF. PART NO. NO.	DESCRIPTION	SWM				REF. PART NO. NO.	DESCRIPTION	SWM			
		48	52	61	72			48	52	61	72
1 46088	Cutter Deck (incl. decal)	x				42a 48299	Pulley (incl. 43-44)				x
1 46163	Cutter Deck (incl. decal)		x			43 48141	Tapered Hub	x	x	x	x
1 46119	Cutter Deck (incl. decal)			x		44 *	Hex Hd. Bolt 1/4-20 x 3/4	x	x	x	x
1 46194	Cutter Deck (incl. decal)				x	45 *	Hex Nut, 5/8-11	x	x	x	x
2 46020	Cutter Spindle Assy. (incl. 3-9)	x	x	x	x	46 48412	Pulley, Double (incl. 43-44)	x	x	x	
3 04050-04	Retaining Ring, 1" Ext. Inverted	x	x	x	x	46 48302	Pulley, Double (incl. 43-44)				x
4 04050-07	Retaining Ring, 2-7/16" Int. basic	x	x	x	x	47 48087	Belt, RH Blade Drive	x			
5 48101-01	Bearing, Cutter Spindle upper	x	x	x	x	47 48285	Belt, RH Blade Drive		x		
5a 48101-02	Bearing, Cutter Spindle lower	x	x	x	x	47 48265	Belt, RH Blade Drive			x	
6 41001	Spindle Housing	x	x	x	x	47 48295	Belt, RH Blade Drive				x
7 48114-02	Grease Fitting Str. 5/16 Serr.	x	x	x	x	48 48089	Belt, Blade Drive	x			
8 43001-02	Spindle, Cutter Blade	x	x	x	x	48 48286	Belt, Blade Drive		x		
9 04041-02	Washer, 1-5/16 x 2-7/16 x 16 ga.	x	x	x	x	48 48264	Belt, Blade Drive			x	
10 04063-08	Key, 1/4 x 1/4 x 2	x	x	x	x	48 48296	Belt, Blade Drive				x
11 43038	Spacer, Cutter Blade	x	x	x	x	49 *	Hex Hd. Bolt, 3/8-16 x 5"	x	x	x	x
12 *	Hex Hd. Bolt, 5/16-18 x 1-1/4	x	x	x	x	50 *	Hex Nut, 3/8-16	x	x	x	x
13 *	Lockwasher, Spring, 5/16	x	x	x	x	50a *	Hex Nut, 3/8-16, Centerlock	x	x	x	x
14 *	Hex Nut, 5/16-18	x	x	x	x	51 *	Lockwasher, Spring, 3/8	x	x	x	x
14a *	Hex Nut, 5/16-24	x	x	x	x	52 04004-02	Support, Belt Cover	x	x	x	x
15 48110	Cutter Blade 16-1/2"	x				53 45098	Belt Guide	x	x	x	x
15 48108	Cutter Blade 18"		x			54 *	Hex Hd. Bolt, 7/16-14 x 1-1/4	x			
15 48111	Cutter Blade 21"			x		54 *	Hex Hd. Bolt, 7/16-14 x 1-1/2		x	x	x
15 48112	Cutter Blade 24"				x	55 *	Washer, 15/32 x 59/64 x 16 ga.	x	x	x	x
15a 48184	Cutter Blade 16-1/2" HI Lift	x				56 *	Lock Washer, Spring, 7/16	x	x	x	x
15a 48185	Cutter Blade 18" HI Lift		x			57 *	Hex Nut, 7/16-14	x	x	x	x
16 04040-10	Flat Washer, 5/8" W	x	x	x	x	58 48181	Idler Pulley, "V" Groove	x	x	x	x
17 04001-41	Hex Hd. Bolt, 5/8-11 x 9-1/2"	x	x	x	x	59 04050-02	Retaining Ring, 3/4" Ext. "E"	x	x	x	x
18 46079	Caster Assy. Comp. (incl. 19-28)	x	x	x	x	60 46081	Idler Arm Assy. (incl. 22 & 61)	x	x	x	x
19 04066-01	Quick Pin	x	x	x	x	61 48100-05	Bronze Bearing	x	x	x	x
20 43037-01	Spacer, Caster Yoke, 1/2" thick	x	x	x	x	62 43028	J Rod, Idler Pull	x	x	x	x
21 48100-01	Bronze Bearing	x	x	x	x	63 43077	Spacer, J Pull Rod	x	x	x	x
22 48114-01	Grease Fitting, Str., 1/4-28	x	x	x	x	64 04041-12	Washer, 3/8 x 1-1/2 x 16 ga.	x	x	x	x
23 46082	Support Assy. (incl. 21-22)	x	x	x	x	65 *	Hex Hd Bolt, 3/8-16 x 2-1/4	x	x	x	x
24 45006	Caster Yoke	x	x	x	x	65a 04004-04	Stud	x	x	x	x
25 43022	Sleeve, Caster Wheel Bearing	x	x	x	x	66 *	Hex Nut, 3/8-16 Elastic Stop	x	x	x	x
26 04001-37	Hex Hd Bolt, 1/2-13 x 5-1/2"	x	x	x	x	67 46145	Idler Arm (incl. 22 & 61)	x	x	x	x
27 *	Hex Locknut, 1/2-13	x	x	x	x	68 43063	Spacer	x	x	x	x
28 48307-01	Wheel Assy. (incl. 13-14, 29-34)	x	x	x	x	69 04070-02	Eyebolt, LH	x	x	x	x
29 48307-02	Tire only, Caster Wheel	x	x	x	x	70 04070-01	Eyebolt, RH	x	x	x	x
29 48006-03	Inner Tube only, Caster Wheel	x	x	x	x	71 43025	Turnbuckle	x	x	x	x
30 48307-04	Rim Pair, Caster Wheel	x	x	x	x	72 04022-02	Wing Nut, 5/16-18	x	x	x	x
31 48006-07	Retainer, Bearing, Caster Wheel	x	x	x	x	73 43042	Sleeve, Cam Clutch	x	x	x	x
32 48006-06	Roller Bearing, Caster Wheel	x	x	x	x	74 *	Hex Hd Bolt, 3/8-16 x 2-3/4	x	x	x	x
33 48114-03	Grease Fitting 45' 1/4-28	x	x	x	x	75 45037	Idler Pivot	x	x	x	x
34 48006-05	Hub Assy. (incl. bolts)	x	x	x	x	76 48269	Idler Pulley, Belt Clutch	x	x	x	x
35 *	Hex Hd. Bolt, 5/16-18 x 3/4"	x	x	x	x	77 44003	Blade Clutch Rod, Lower	x	x	x	x
36 45029	Discharge Chute	x		x	x	78 43043	Sleeve, Clutch Rod	x	x	x	x
36 45100	Discharge Chute		x			79 *	Cotter Pin, 3/32 x 1	x	x	x	x
37 *	Hex Nut, 5/16-18 Elastic Stop	x	x	x	x	80 *	Washer, 33/64 x 1 x 16 ga.	x	x	x	x
38 *	Hex Hd. Bolt, 5/16-18 x 1	x	x	x	x	81 04062-01	Hair Pin Large	x	x	x	x
39 46086	Belt Cover (incl. decals)	x				82 *	Hex Hd Bolt, 3/8-16 x 1	x	x	x	x
39 46164	Belt Cover (incl. decals)		x			83 42057	Cam Link	x	x	x	x
39 46121	Belt Cover (incl. decals)			x		84 45046	Roller Shaft		x	x	x
39 45143	Belt Cover				x	85 48038	Guide Roller		x	x	x
40 *	Washer 25/64 x 15/16 x 12 ga.	x	x	x	x	86 *	Flat Washer, 11/32 x 11/16 x 16 ga.	x	x	x	x
41 04022-04	Wing Nut, 3/8-16	x	x	x	x	87 44008	Belt Guide	x	x	x	x
42 48127	Pulley (incl. 43-44)	x	x	x	x	88 *	Flat washer, 3/4 x 1-1/4 x .035	x	x	x	x

\* Common hardware which should be purchased locally. All bolt Grade 5 plated, all other fasteners zinc plated.

# ENGINE DECK





# ENGINE DECK

See Page 11 For Illustration

REF. PART NO.	DESCRIPTION	14BV	14KH	13KA	18KH	18EKH	20EKH
! ATTENTION LINES IN BOLD LETTERS INDICATE EXTRA IDENTIFICATION IS NEEDED !							
1a 48391	Engine 14HP Briggs Vanguard (261772 0120 01)	x					
1a 48357	Engine 14HP Kohler (CV12.5T PS-1413)		x				
1a 48190	Engine 12.5HP Kawasaki (FB460-ES05)			x			
1b 48268	Engine 18HP Kohler (MV18 PS-58511)				x		
1b 48258	Engine 18HP Kohler El. St. (MV18 PS-58508)					x	
1b 48358	Engine 20HP Kohler El. St. (MV20 PS-57508)						x
2 48059-01	Cable clamp					x	x
3 48331	Transmission 5 spd (Pearless 700-026)	x	x	x	x	x	x
4 48231	Neutral safety switch	x	x	x	x	x	x
5 48122-01	Fibre washer, thin	x	x	x	x	x	x
5a 48122-02	Fibre washer, thick	x	x	x	x	x	x
6 48226	Coupler, jackshaft	x	x	x	x	x	x
7 48114-01	Grease fitting, straight 1/4-28	x	x	x	x	x	x
8 48225	JACKSHAFT (FITS SW32, 36, & 48)	x	x	x			
8 48242	JACKSHAFT (FITS SW52, 61, & 72)		x	x	x	x	x
9 04063-09	Key, Hi-Pro #9	x	x	x	x	x	x
10 *	Hex Hd Bolt, 5/16-18 x 3/4	x	x	x	x	x	x
11 *	Lockwasher, Spring 5/16	x	x	x	x	x	x
12 48305	Switch, Clutch Safety black	x	x	x	x	x	x
13 *	Phillips Hd. Machine Screw, 10-32 x 1/2	x	x	x	x	x	x
14 *	Washer .219 x .500 x .049	x	x	x	x	x	x
15 *	Lockwasher, #10 Ext. Tooth	x	x	x	x	x	x
16 *	Hex Nut #10-32	x	x	x	x	x	x
17 45090-01	ENGINE DECK (FITS SW36, & 48)	x	x	x			
17 45116	ENGINE DECK (FITS SW52, 61, 72)	x	x		x	x	x
17 45128	ENGINE DECK (FITS SW32)	x					
18 42199	Rear Belt Guide, Engine	x	x	x	x	x	x
19 *	Hex Nut, 5/16-18	x	x	x	x	x	x
20 44006	Belt Guide, Tractlon Dr.	x	x	x	x	x	x
21 *	Hex Head Bolt, 5/16-18 x 1	x	x	x	x	x	x
21a *	Carriage Hd Bolt, 5/16-18 x 1	x	x	x	x	x	x
22 *	Washer, 25/64 x 15/16 x 12 ga.	x	x	x	x	x	x
23 48197	Pulley, Transmission Input	x	x	x	x	x	x
24 04063-07	Key, Woodruff #9	x	x	x	x	x	x
25 04050-09	Retaining Ring, 5/8 Ext. Basic	x	x	x	x	x	x
26 48203	Belt, Transmission Drive	x	x	x	x	x	x
27 48201	Idler Pulley, Transmission	x	x	x	x	x	x
28 48196	Pulley, Traction Drive	x	x	x	x	x	
28 48379	Pulley, Traction Drive						x
29 04063-03	Key, 1/4 x 1/4 x 2-1/2	x	x	x	x	x	x
31 48127	Pulley, Blade Dr. (Incl. 32-33)	x	x	x	x	x	
31 48378	Pulley, Blade Dr. (Incl. 31-33)						x
32 48141	Taper Hub (for 48127)	x	x	x	x	x	
32 48378-03	Taper Hub (for 48378)						x
33 *	Hex Hd Bolt, 1/4-20 x 3/4	x	x	x	x	x	x
34 *	Lockwasher, Spring, 3/8	x	x	x	x	x	x
35 *	Hex Nut, 3/8-16	x	x	x	x	x	
36 42268	BELT GUIDE, SADDLE (FITS SW32, & 36)	x	x	x			
36A 42265	BELT GUIDE, SADDLE (FITS SW48, 52, 61, & 72)	x	x	x	x	x	x
37 *	Hex Hd Bolt, Metric 8 x 30 (8 x 25 on SW32)			x			
37 *	Hex Hd Bolt, 5/16-18 x 1-3/4 (1-1/4 on SW32-14BV)	x	x		x	x	x
38 48192-01	WHEEL ASSY (INCL 38A-38B) (FITS SW36, 48, 52, 61, 72)	x	x	x	x	x	x
38 48253	WHEEL ASSY (INCL 38A-38B) (FITS SW32)	x					
38A 48192-01	TIRE, 13 X 6.50-6, 2-PLY FITS SW36,48,52,61,&72	x	x	x	x	x	x
38B 48192-03	RIM&BRG ASSY (INCL 39) FITS SW36,48,52,61,&72	x	x	x	x	x	x
38C 48253-02	TIRE, 13 X 5.00-PLY FITS SW32 ONLY	x					
38D 48253-03	RIM&BRG ASSY (INCL 39) FITS SW32 ONLY	x					
39 48193-02	Wheel Bearing NWC (OD 1.984 - 1.980)	x	x	x	x	x	x

\* Common hardware which should be purchased locally. All bolts Grade 5 plated, all other fasteners zinc plated.

ENGINE DECK CONTINUED ON FOLLOWING PAGE

# ENGINE DECK CONT'D

See Page 11 For Illustration

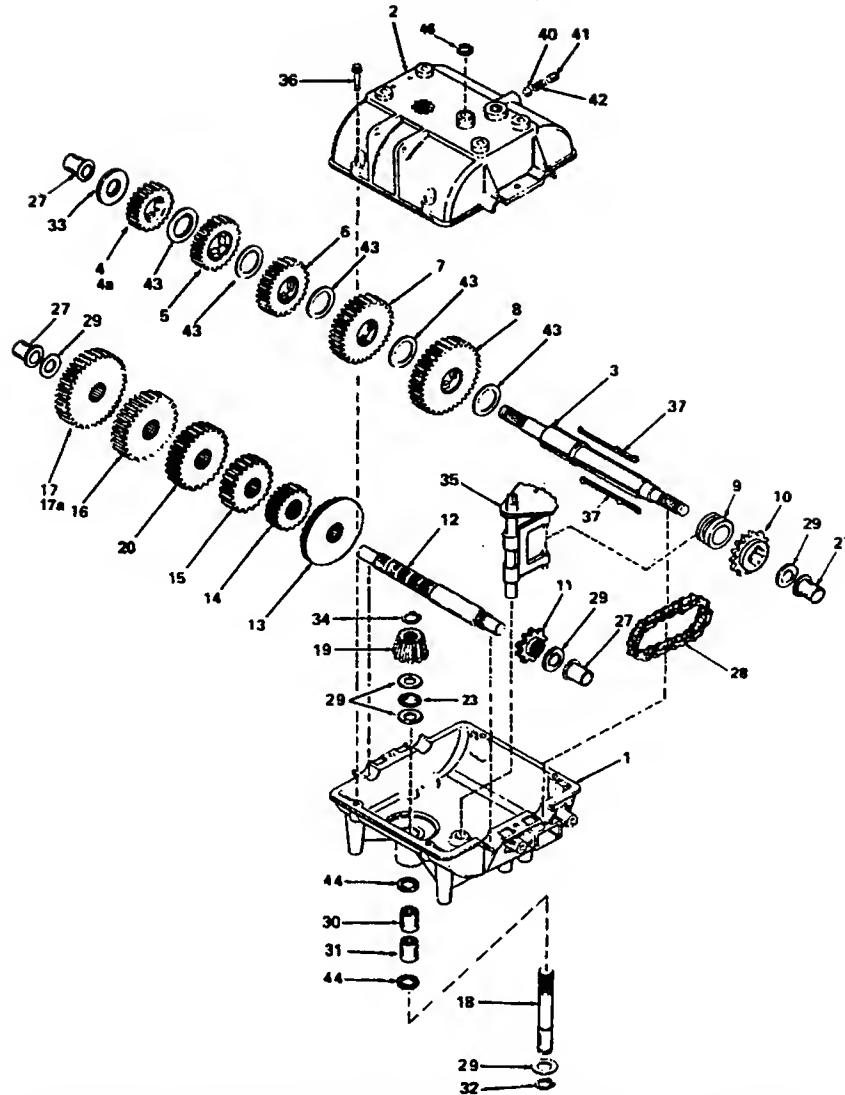
REF. PART NO.	DESCRIPTION	14BV	14KH	13KA	18KH	18EKH	20EKH
! ATTENTION LINES IN BOLD LETTERS INDICATE EXTRA IDENTIFICATION IS NEEDED !							
39	48193-01 Wheel Bearing [ OD 2.000 - 2.005]	x	x	x	x	x	x
40	04042-05 Washer, 1-1/16 x 1-3/4 x 12 ga.	x	x	x	x	x	x
40A	04041-14 Washer, 1-1/16 x 1-1/2 x 18 ga.	x	x	x	x	x	x
41	04050-08 Retaining Ring, 1" Ext. - "E"	x	x	x	x	x	x
42	48200 Pulley, Wheel Drive	x	x	x	x	x	x
43	43088 Spacer, Wheel Pulley	x	x	x	x	x	x
44	48209 Brake Drum	x	x	x	x	x	x
45	* Hex Hd. Bolt, 5/16-18 x 1-1/2	x	x	x	x	x	x
46	04003-03 Short Square Neck Crg. Bolt, 3/8-18 x 2	x	x	x	x	x	x
47	* Hex Nut, 5/16-18 Elastic Stop	x	x	x	x	x	x
48	04003-05 Short Sq. Neck Crg. Bolt, 3/8-18 x 1-1/2				x	x	x
49	45145 Battery Box					x	x
50	42330 Bracket, Idler Pulley				x	x	x
51	43063 Spacer				x	x	x
52	04041-11 Washer, 13/32 x 1-1/2 x 7 ga.				x	x	x
53	42361 Battery Clamp					x	x
54	42024 Battery Cover					x	x
55	48099 Battery Cover Pad					x	x
56	* Carriage Hd Bolt, 1/4-20 x 6					x	x
63	* Hex Hd Bolt, 3/8-16 x 2				x	x	x
64	48030 Clamp, Fuel Hose				x	x	x
65	48257 Pipe Cap				x	x	x
66	48254 Pipe 4" Nipple				x	x	x
68	04022-01 Wing Nut, 1/4-20 elastic stop					x	x
69	48015 Battery					x	x
70	* Hex Hd. Bolt, 3/8-16 x 3/4					x	x
71	* Hex Nut, 5/16-18	x	x	x	x	x	x
72	* Lockwasher, 5/16	x	x	x	x	x	x
73	44037 Belt Scraper	x	x	x	x	x	x

\* Common hardware which should be purchased locally. All bolts Grade 5 plated, all other fasteners zinc plated.

74 48333 Rubber Pad, Ant Squeak

x x

# PEERLESS 700

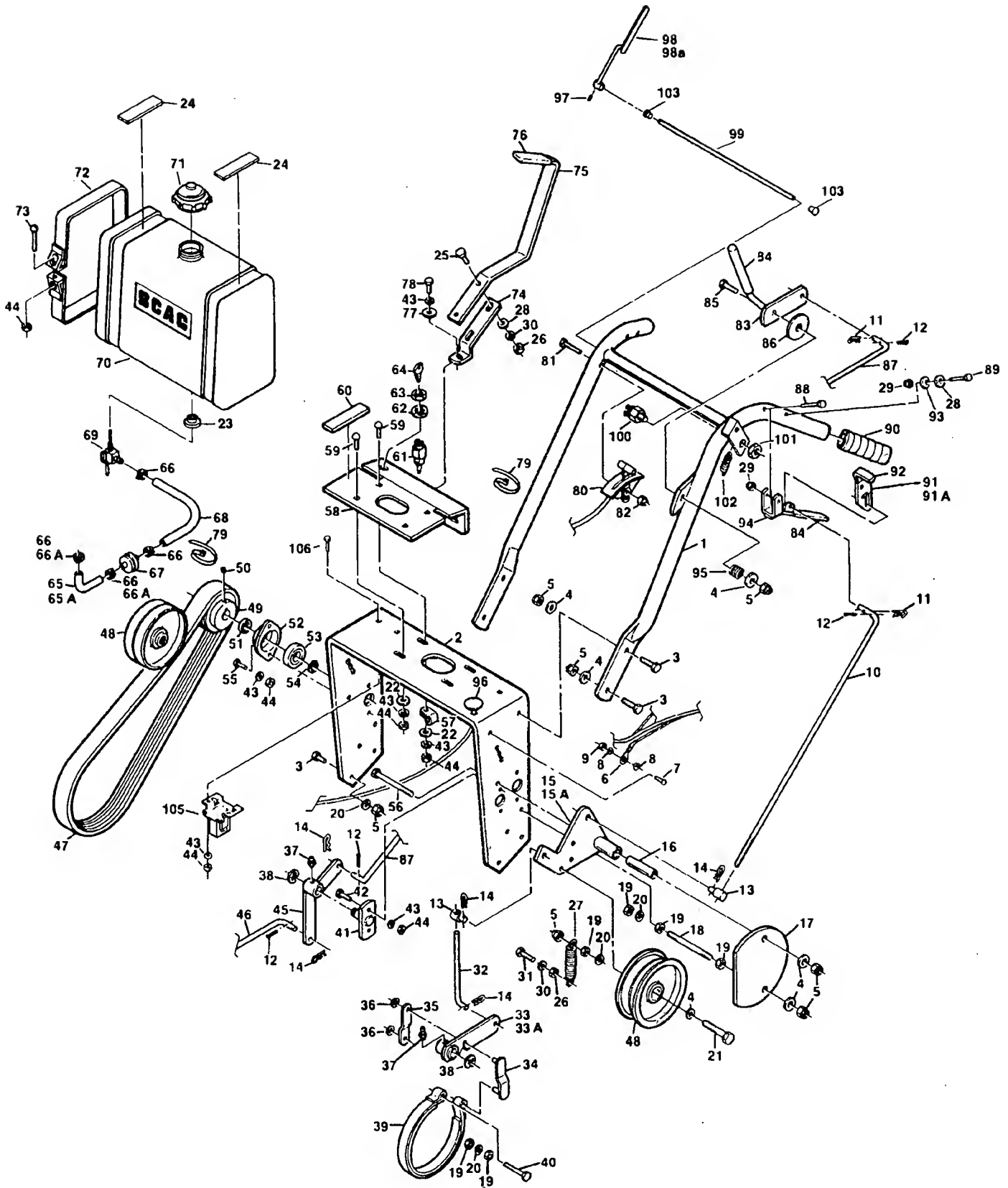


## PEERLESS TRANSMISSION MODEL 700-026

REF. PART NO. NO.	DESCRIPTION	ALL UNITS	REF. PART NO. NO.	DESCRIPTION	ALL UNITS
1 770061	Case, Transmisson	x	20 778240	Gear, Spur (18 teeth)	x
2 772083	Cover, Transmission	x	23 780071	Bearing, Thrust	x
3 776217	Shaft, Output & Brake	x	27 780105A	Bushing, Flanged	x
4 778123A	Gear, Spur (25 teeth)	x	28 786081	Chain, Roller (No.41 chain,24 links)	x
5 778124A	Gear, Spur (30 teeth)	x	29 780072	Washer, Thrust	x
6 778239	Gear, Spur (32 teeth)	x	30 780086	Bearing, Needle	x
7 778125	Gear, Spur (35 teeth)	x	31 780142	Bearing, Needle	x
8 778146A	Gear, Spur (37 teeth)	x	32 792035	Ring, Retaining	x
9 784266	Collar, Shift	x	33 780139	Washer, Thrust	x
10 786083	Sprocket (18 teeth)	x	34 788040	Ring, Retaining	x
11 786082	Sprocket (9 teeth)	x	35 784267	Rod & Fork Assy., Shift	x
12 776134	Shaft, Counter	x	36 792073	Screw, Flanged Hexhd.tf, 1/4-20x1-1/4	x
13 778154	Gear, Bevel (42 teeth)	x	37 792089A	Key	x
14 778145	Gear, Spur (12 teeth)	x	40 792077	Ball, Steel, 5/16"	x
15 778151	Gear, Spur (15 teeth)	x	41 792078	Screw, Set 3/8-16 x 3/8	x
16 778126A	Gear, Spur (20 teeth)	x	42 792079	Spring	x
17 778127A	Gear, Spur (25 teeth)	x	43 780108	Washer, Thrust	x
18 776135	Shaft, Input	x	44 792001	"O" Ring	x
19 779176	Bevel Pinion, Input	x	46 788069	Seal, Square cut	x



# HANDLE ASSEMBLY



# HANDLE ASSEMBLY

See Page 15 For Illustration

REF. NO.	PART NO.	DESCRIPTION	14BV	14KH	13KA	18KH	18EKH	20EKH
I ATTENTION LINES IN BOLD LETTERS INDICATE EXTRA IDENTIFICATION IS NEEDED I								
1	45097	HANDLE ASSY. FITS SW 32, 36, 48	X	X	X			
1	45117	HANDLE ASSY. FITS SW 52, 61, 72	X	X	X	X	X	X
2	42249	HANDLE MOUNTING FRAME FITS SW 32, 36, 48	X	X	X			
2	42310	HANDLE MOUNTING FRAME FITS SW 52, 61, 72	X	X	X	X	X	X
3	*	Hex Hd. Bolt, 3/8-16 x 1	X	X	X	X	X	
4	*	Washer, 25/64 x 15/16 x 12 ga.	X	X	X	X	X	X
5	*	Hex Nut, 3/8-16 Elastic Stop	X	X	X	X	X	X
6	48293	Wire Harness, electric start					X	X
6	48237	Wire Harness, manual start	X	X	X	X		
NS	48287	Wire Harness, Kohler adapter for use with 48237		X		X		
7	*	Mach. Screw, #10-32 x 1/2 Phillips	X	X	X	X	X	X
8	*	Lockwasher, #10 Ext. Tooth	X	X	X	X	X	X
9	*	Hex Nut, #10-32	X	X	X	X	X	X
10	44004	Control Rod, Steering	X	X	X	X	X	X
11	04062-02	Hair Pin, Small	X	X	X	X	X	X
12	*	Cotter Pin, 3/32 x 3/4	X	X	X	X	X	X
13	43032	Swivel Joint	X	X	X	X	X	X
14	04062-01	Hair Pin, Large	X	X	X	X	X	X
15	45091-01	Idler Bracket, RH	X	X	X	X	X	X
15A	45091-02	Idler Bracket, LH	X	X	X	X	X	X
16	43092	Idler Sleeve	X	X	X	X	X	X
17	42283	Belt Guard	X	X	X	X	X	X
18	04004-01	Support Belt Guard	X	X	X	X	X	X
19	*	Hex Nut, 3/8-16	X	X	X	X	X	X
20	*	Lockwasher, 3/8 spring	X	X	X	X	X	X
21	*	Hex Hd. Bolt, 3/8-16 x 2-3/4	X	X	X	X	X	X
22	*	Flat Washer, 1/4	X	X	X	X	X	X
23	48309	Bushing	X	X	X	X	X	X
24	48292	Rubber Pads, (upper)	X	X	X	X	X	X
25	*	Hex Hd. Bolt, 5/16-18 x 1-1/4	X	X	X	X	X	X
26	*	Hex Nut, 5/16-18	X	X	X	X	X	X
27	48051	Spring, Idler Tension	X	X	X	X	X	X
28	*	Washer, 11/32 x 11/16 x 16 ga.	X	X	X	X	X	X
29	*	Hex Nut, 5/16-18 Elastic Stop	X	X	X	X	X	X
30	*	Lockwasher, 5/16 spring	X	X	X	X	X	X
31	*	Hex Hd. Bolt, 5/16-18 x 1	X	X	X	X	X	X
32	44005	Brake Rod	X	X	X	X	X	X
33	45092-01	Brake Lever, RH	X	X	X	X	X	X
33A	45092-02	Brake Lever, LH	X	X	X	X	X	X
34	45093	Brake Link	X	X	X	X	X	X
35	42254	Brake Link Plate	X	X	X	X	X	X
36	04024-01	Nut, 3/8 push-on	X	X	X	X	X	X
37	48114-01	Grease Fitting, Straight, 1/4-28	X	X	X	X	X	X
38	04050-01	Retaining Ring, 5/8 Ext. "E"	X	X	X	X	X	X
39	48210	Brake Band	X	X	X	X	X	X
40	*	Hex Hd. Bolt, 3/8-16 x 2	X	X	X	X	X	X
41	45094	Bell Crank Pivot Wld.	X	X	X	X	X	X
42	*	Hex Hd. Bolt, 1/4-20 x 1	X	X	X	X	X	X
43	*	Lockwasher, 1/4 spring	X	X	X	X	X	X
44	*	Hex Nut, 1/4-20	X	X	X	X	X	X
45	45095	Bell Crank, Clutch	X	X	X	X	X	X
46	44003	Blade Clutch Rod, Lower	X	X	X	X	X	
47	48202	Belt, Wheel Drive	X	X	X	X	X	X
48	48198	Idler Pulley, Wheel Drive	X	X	X	X	X	X
49	48199	Pulley, Jackshaft (Incl. 50)	X	X	X	X	X	X
50	*	Setscrew, Hex Sct. Knrl. Cup Pt. 5/16-18 (nylock)	X	X	X	X	X	X
51	43098	Spacer, Jackshaft Pulley	X	X	X	X	X	X
52	48223	Flange, Jackshaft Bearing	X	X	X	X	X	X
53	48224	Bearing, Jackshaft	X	X	X	X	X	X
54	04050-09	Retaining Ring, 5/8 Ext. -Basic	X	X	X	X	X	X

\* Common hardware which should be purchased locally. All bolts grade 5 plated, all other fasteners zinc plate.

HANDLE ASSEMBLY CONTINUED ON NEXT PAGE

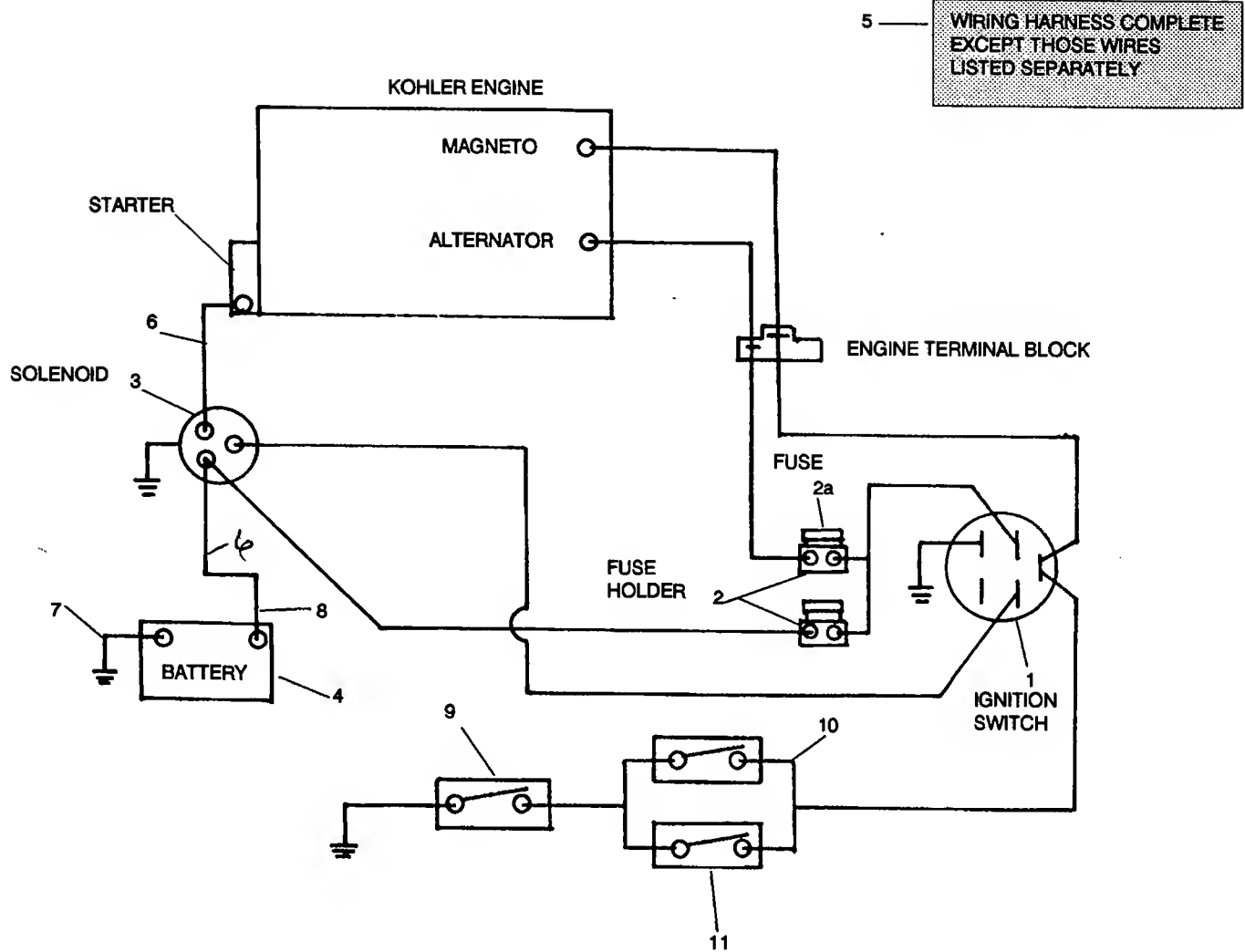
# HANDLE ASSEMBLY CONT'D

See Page 15 For Illustration

REF. NO.	PART NO.	DESCRIPTION	14BV	14KH	13KA	18KH	18EKH	20EKH
! ATTENTION LINES IN BOLD LETTERS INDICATE EXTRA IDENTIFICATION IS NEEDED !								
55	*	Hex Head Bolt, 1/4-20 x 3/4	x	x	x	x	x	x
56	*	Hex Head Bolt, 3/8-16 x 4	x	x	x	x	x	x
57	48030-01	Clamp	x	x	x	x	x	x
58	42390	Shifter Plate	x	x	x	x	x	x
59	*	Carriage Bolt, 1/4-20 x 1	x	x	x	x	x	x
60	48205	Rubber Pad (lower)	x	x	x	x	x	x
61	48171	Key Switch	x	x	x	x	x	x
61	48017	Key Switch					x	x
62	48017-03	Lockwasher, 5/8 Internal Tooth	x	x	x	x	x	x
63	48017-04	Hex Nut, 5/8-32	x	x	x	x	x	x
64	48017-02	Key, Ignition	x	x	x	x	x	x
65	48058-02	Fuel Hose (KH only) 1/4 ID x 14 1/8				x	x	x
66	48059-01	Clamp, Fuel Hose	x	x		x	x	x
66a	48059-02	Clamp, Fuel Hose (Kawasaki Only)			x			
67	48057-02	Fuel Filter			x			
68	48058-06	Fuel Hose, 1/4 ID x 17	x	x	x	x	x	x
69	48308	Valve, Fuel Shut Off	x	x	x	x	x	x
70	46174	Fuel Tank Assy. (Incl. Decals 23, 71, 69)	x	x	x	x	x	x
71	48311	Fuel Tank Cap	x	x	x	x	x	x
72	42369	Strap, Fuel Tank	x	x	x	x	x	x
73	*	Machine Screw, 1/4-20 x 2 Round Hd. Slotted	x	x	x	x	x	x
74	42388	Shifter Lever	x	x	x	x	x	x
75	46207	Shift Lever Assy. (Incl. 76)	x	x	x	x	x	x
76	48215	Grip, Shift Lever	x	x	x	x	x	x
77	04043-01	Washer, 17/64 x 7/8 x 1/8 HT	x	x	x	x	x	x
78	04001-55	Hex Head Bolt, 1/4-28 x 3/4 Grade 8	x	x	x	x	x	x
79	48028-01	Cable Tie	x	x	x	x	x	x
80	48206	Throttle Control			x			
80	48385	Throttle Control	x	x				
80	48266	Throttle Control				x	x	x
81	*	Hex Head Bolt, 1/4-20 x 2	x	x	x	x	x	x
82	*	Hex Nut, 1/4-20 Elastic Stop	x	x	x	x	x	x
83	46090	Blade Clutch Lever Assy. (Incl. 104)	x	x	x	x	x	x
84	48326	Grip, Lever 48/44	x	x	x	x	x	x
85	*	Hex Head Bolt, 3/8-16 x 1-3/4	x	x	x	x	x	x
86	04041-10	Washer, 3/8 x 2 x 16 ga.	x	x	x	x	x	x
87	44002	Belt Clutch Rod, Upper 4607b	x	x	x	x	x	x
88	*	Hex Head Bolt, 5/16-18 x 2-1/4	x	x	x	x	x	x
89	*	Hex Head Bolt, 5/16-18 x 2	x	x	x	x	x	x
90	48159	Grip, Handle	x	x	x	x	x	x
91	46083-01	Neutral Latch Assy. RH (Incl. 92)	x	x	x	x	x	x
91A	46083-02	Neutral Latch Assy. LH (Incl. 92)	x	x	x	x	x	x
92	48324-01	Grip, Neutral Latch - RH	x	x	x	x	x	x
92	48324-02	Grip, Neutral Latch - LH	x	x	x	x	x	x
93	04032-01	Curved Spring Washer	x	x	x	x	x	x
94	46089	Steering Lever Assy. (Incl. 84)	x	x	x	x	x	x
95	48050	Spring, Compression	x	x	x	x	x	x
96	48091	Choke Control				x	x	x
97	*	Set Screw, 1/4-28 x 1 Knurled cup point	x	x	x	x	x	x
98	45142	Safety Interlock Hand Grip - LH	x	x	x	x	x	x
98a	45141	Safety Interlock Hand Grip - RH	x	x	x	x	x	x
99	44018	ROD, CONTROL PIVOT 16"	x	x	x			
99	44014	ROD, CONTROL PIVOT 20"				x	x	x
100	48021	Switch Interlock (gold colored)	x	x	x	x	x	x
101	04026-01	Hex Nut, 9/16-18 spring steel	x	x	x	x	x	x
102	48313	Spring, Grip Return	x	x	x	x	x	x
103	48312	Bushings	x	x	x	x	x	x
104	48144	Grip, Steering Levers	x	x	x	x	x	x
105	48016	Solenoid					x	x
106	*	Bolt, Hex Hd. 1/4-20 x 1/2					x	x

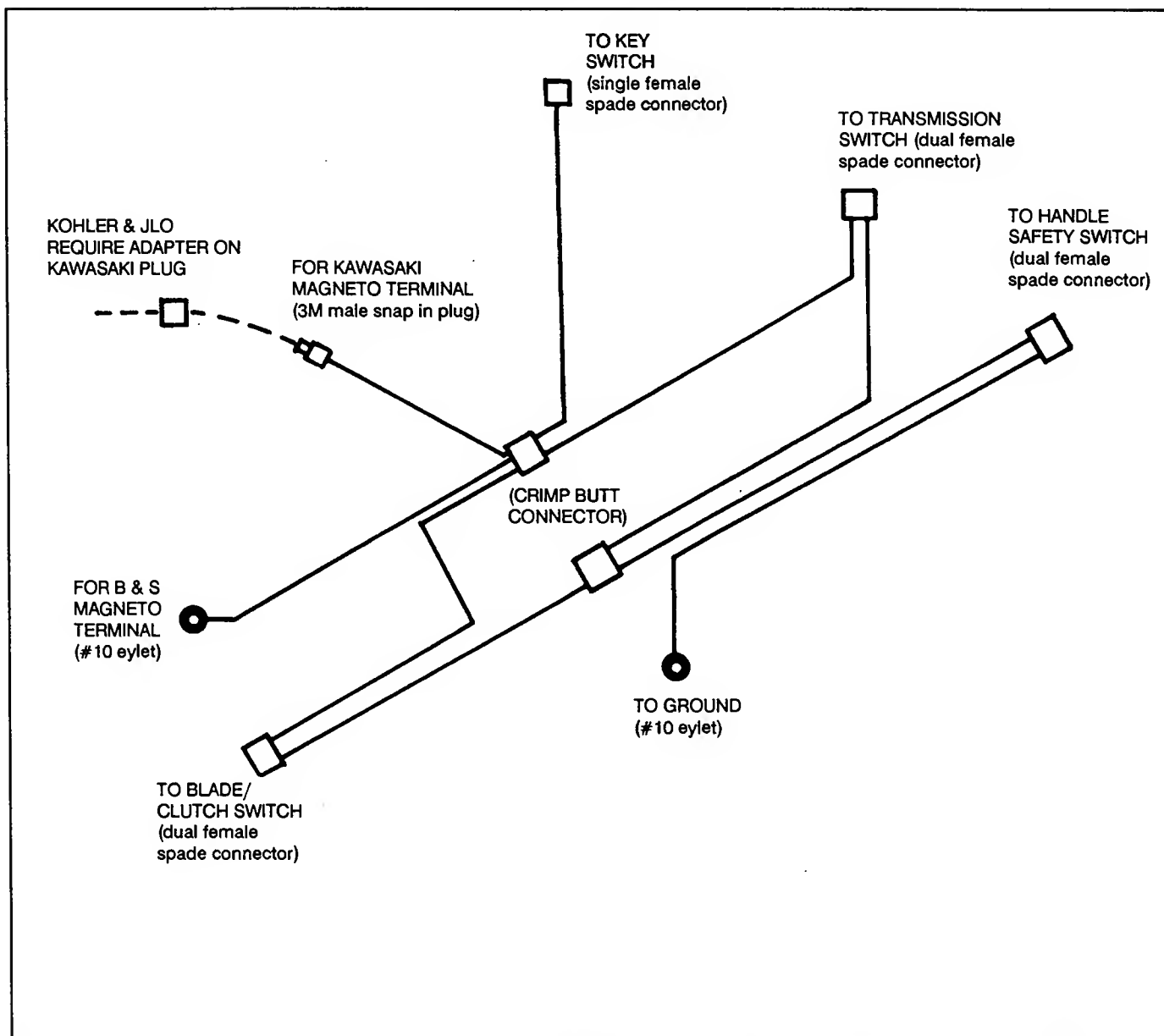
\* Common hardware which should be purchased locally. All bolts grade 5 plated, all other fasteners zinc plate.

# ELECTRIC START ELECTRICAL SYSTEM



REF NO.	PART NO.	DESCRIPTION	SW 18KHE	SW 20KHE
1	48017	Key switch	x	x
2	48297	Fuse holder	x	x
2a	48298	Fuse 20 Amps	x	x
3	48016	Solenoid	x	x
4	48015	Battery may be purchased locally (U9-LM)	x	x
5	48293	Wiring harness complete	x	x
6	48029-01 03	Battery cable - lead - 13 3/4"	x	x
7	48029-04 48029-00	Battery cable black - 20"	x	x
8	48126	Rubber boot	x	x
9	48021	Switch, handle interlock N.C.	x	x
10	48305	Switch, cutter drive interlock N.O.	x	x
11	48231	Switch, transmission interlock N.O.	x	x

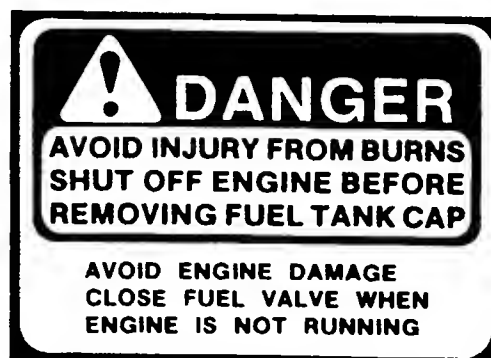
## WIRING DIAGRAM FOR MANUAL START



## REPLACEMENT DECALS



48277  
Decal - 2 Cycle Fuel Mixture  
(Location - Top of Engine)



48281  
Decal - Operator Warning  
Fuel Fill  
(Located On Back of Fuel Tank)

## REPLACEMENT DECALS

# SCAG

48314  
Decal - Scag's Logo  
(Located On Cutter Deck Cover - Top Surface)

**R N 1 2 3 4**  
**I I I I I I**

48216 - 4SPD  
48332 - 5SPD  
Decal - Shift Index  
(Located On Shifter Plate - Above Shift Lever)

**HEAVY DUTY  
COMMERCIAL**

48072  
Decal - Heavy Duty Commercial  
(Located On Cutter Deck Cover - Front Wall)



48073  
Decal - Danger, Rotating Blades  
(Located On Cutter Deck Cover -  
Near Discharge Chute)

**48**

72	48327
61	48320
52	48319
48	48318
36	48316
32	48315

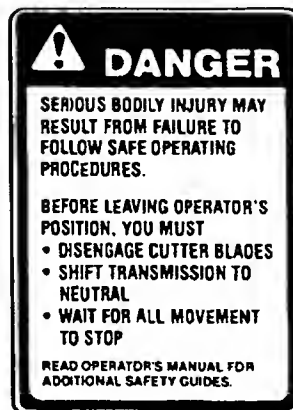


48071  
Decal - O.P.C.t. Safety  
(Located On Cutter Deck Near  
Discharge Chute)

**CLOSE FUEL VALVE  
WHEN MACHINE IS  
NOT IN USE**

IF VALVE IS LEFT OPEN  
SEVERE ENGINE DAMAGE  
OR HARD STARTING MAY  
RESULT FROM FLOODING

48214  
Decal - Fuel Shutoff  
(Located On Fuel  
Tank - Above Keyswitch)



48222  
Decal - Operator Warning  
(Located On Fuel Tank -  
Above Shift Lever)

**OFF** **ON**

48079  
Decal - Key Switch  
(Located On Shifter  
Plate - Near Keyswitch)

## WARNING

If incorrectly used, this machine can cause severe injury. Those who use and maintain the machine should be trained in its proper use, warned of its dangers, and should read the entire manual before attempting to set up, operate, adjust or service the machine.

## LIMITED WARRANTY-COMMERCIAL EQUIPMENT

This warranty extends to the original retail purchaser only and commences on the date of original retail purchase.

Any part of the Scag commercial mower manufactured by Scag and found in the reasonable judgment of Scag to be defective in material or workmanship, will be repaired or replaced by an Authorized Scag Service Dealer without charge for parts and labor.

The Scag mower including any defective part must be returned to an Authorized Scag Service Dealer within the warranty period. The expense of delivering the mower to the dealer for warranty work and the expense of returning it back to the owner after repair or replacement will be paid for by the owner. Scag's responsibility in respect to claims is limited to making the required repairs or replacements, and no claim of breach of warranty shall be cause for cancellation or rescission of the contract of sale of any Scag mower. Proof of purchase will be required by the dealer to substantiate any warranty claim. All warranty work must be performed by an Authorized Scag Service Dealer.

This warranty is limited to one year from the date of original retail purchase for any Scag mower that is used for commercial purposes, or any other income-producing purpose (90 days for rental use).

This warranty does not cover any mower that has been subject to misuse, neglect, negligence, or accident, or that has been operated in any way contrary to the operating instructions as specified in the Technical Manual. The warranty does not apply to any damage to the mower that is the result of improper maintenance, or to any mower or parts that have not been assembled or installed as specified in the Technical Manual.

The warranty does not cover any mower that has been altered or modified so as to adversely affect the product's operation, performance or durability or that has been altered or modified so as to change the intended use of the

product. In addition, the warranty does not extend to repairs made necessary by normal wear, or by the use of parts or accessories which, in the reasonable judgment of Scag, are either incompatible with the Scag mower or adversely affect its operation, performance or durability. This warranty does not cover engines, electric starters, batteries, belts and tires which are warranted separately by their manufacturer and for a different period of time.

Scag Power Equipment reserves the right to change or improve the design of any mower without assuming any obligation to modify any mower previously manufactured.

All other implied warranties are limited in duration to the one (1) year warranty period or ninety (90) days for mowers used for rental purpose. Accordingly, any such implied warranties including merchantability, fitness for a particular purpose, or otherwise, are disclaimed in their entirety after the expiration of the appropriate one year or ninety day warranty period. Scag's obligation under this warranty is strictly and exclusively limited to the repair or replacement of defective parts and Scag does not assume or authorize anyone to assume for them any other obligation. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Scag assumes no responsibility for incidental, consequential or other damages including, but not limited to, expense for gasoline, expense of delivering the mower to an Authorized Scag Service Dealer and expense of returning it back to the owner, mechanic's travel time, telephone or telegram charges, rental of a like product during the time warranty repairs are being performed, travel, loss or damage to personal property, loss of revenue, loss of use of the mower, loss of time or inconvenience. Some states do not allow the exclusion or limitation of incidental or consequential damages. So the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



### **PLEASE BE CAREFUL**

1. Keep all shields in place, especially grass discharge.
2. Stop machine and remove spark plug wire to adjust or service.
3. When mechanism becomes clogged, stop engine before cleaning.
4. Keep hands, feet and clothing away from power-drive parts.
5. Keep off implement unless seat or platform is provided.
6. Keep others off.

**FAILURE TO FOLLOW CAUTIOUS OPERATING PRACTICES MAY RESULT IN  
SERIOUS BODILY INJURY. BESIDES, WE WOULD LIKE YOU TO CONTINUE TO  
ENJOY AND PROFIT BY USING OUR PRODUCTS.**

### **OWNER REFERENCE**

MODEL NUMBER \_\_\_\_\_

SERIAL NUMBER \_\_\_\_\_

ENGINE MODEL \_\_\_\_\_

SERIAL NUMBER \_\_\_\_\_